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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,954	09/23/2003	Anand P. Narayan	TCOM0007	4754
39258 7590 07/23/2009 TENSORCOMM, INC. c/o iSherpa Capital 6400 S. Fiddler's Green Circle, Suite 650 Greenwood Village, CO 80111				
EXAMINER TRAN, KHAI				
ART UNIT 2611		PAPER NUMBER		
MAIL DATE 07/23/2009		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/669,954

Applicant(s)

NARAYAN ET AL.

Examiner

KHAI TRAN

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 26-38, 57-59, 61-74 and 80-85 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 65-74 and 80-85 is/are allowed.
- 6) ☒ Claim(s) 1, 5-8, 13, 26, 57-59, 61 and 62 is/are rejected.
- 7) ☒ Claim(s) 2-4, 9-12, 27-38, 63 and 64 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/27/09
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed 4/21/2009 has been entered. Claims 1-13, 26-38, 57-59, 61-74, and 80-85 are pending in this Office action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 5-8, 13, 26, 59, and 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (U.S. Pat. 7,194,051) in view of Karabinis et al (US 2003/0054814).

Regarding claim 1, Li et al disclose a method for selectively enabling signal interference cancellation, comprising: identifying a plurality of signal paths; for a set of the identified signal paths, determining an observed signal strength (col. 3, line 65 to col. 4, line 49); Li et al fail to disclose to identify at least one of the signal paths as a potential interferer based at least in part on the observed signal strength; and creating at least a first interference cancelled signal stream.

Karabinis et al disclose identifying at least one of the signal paths as a potential interferer based at least in part on the observed signal strength (see [0039]); least a first interference cancelled signal stream (an interference reducer 170a used to cancel interference from the at least one potential interference, see [0041], [0042]). It would have been obvious to one having ordinary skill in the art at the time the invention was

made to cancel the potential interference based at least in part on the signal strength as taught Karabinis et al into the teachings of Li et al in order to reduce interference from the wireless radiation by ancillary terrestrial network.

Regarding claim 5, Li et al also disclose wherein said set of identified signal paths comprises a set of assigned signal paths (col. 4, lines 10-21).

Regarding claim 6, Li et al disclose wherein said set of assigned signal paths is obtained from a demodulation path list (from a demodulation finger 220).

Regarding claim 7, Karabinis et al disclose wherein said identifying a plurality of potential interferers comprises identifying a first number of signal paths having at least a first signal strength (see [0085], [0086]).

Regarding claim 8, Karabinis et al disclose listing said potential interferers in a cancellation candidate list (see [0011]).

Regarding claim 13, Karabinis et al disclose storing an identity of said at least a first interference cancelled signal (see [0011]).

Regarding claim 26, Li et al disclose establishing a connection between a demodulating finger and one of a raw signal stream and an interference cancelled signal stream based on an entry in said cancellation list (a connection between the demodulation elements 220 and the raw signal (samples) as shown in Figure 2). Li et al fail to disclose populating a cancellation list with an identity of at least a first signal path that has been identified as an interfering signal path.

Karabinis et al disclose populating a cancellation list with an identity of at least a first signal path that has been identified as an interfering signal path (see [0011],

[0014]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to populate a cancellation list with an identity of at least a first signal path that has been identified as an interfering signal path as taught by Karabinis et al into the teachings of Li et al for the purpose of minimizing the level of interference from the terrestrial operations into the satellite operations.

Claim 59 is similar to claim 1. Therefore, claim 59 is rejected under a similar rationale.

Claims 61-62 are similar to claim 1. Therefore, claims 61-62 are rejected under a similar rationale.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 57-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Li et al (U.S. Pat. 7,194,051).

Regarding claim 57, Li et al disclose a set of data structures for use in identifying a potentially interfering signal path as shown in Figure 2, comprising: a demodulating finger identifier (a demodulation element (Finger) 220); a signal path assigned to each

demodulating finger identifier (see Figure 2); and a signal strength associated with each signal path (a received strength indicator (RSS) 254).

Regarding claim 58, Li et al disclose a sector associated with each signal path (see Figure 2).

Allowable Subject Matter

6. Claims 2-4, 9-12, 27-38, 63-64 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. Claims 65-68, 69-72, 73-74, and 80-85 are allowed.
8. The following is a statement of reasons for the indication of allowable subject matter: Li et al and Karabinis et al fail to disclose a receiver configured for processing a raw signal stream, comprising: a cancellation controller operable to selectively provide either or both of the raw signal stream and at least one interference cancelled signal stream to the plurality of demodulation fingers; and at least one cancellation module configured with the cancellation controller and operable to remove at least one replica of an interfering signal path from the raw signal stream to generate one of the at least one interference cancelled signal streams.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KHAI TRAN/
Primary Examiner, Art Unit 2611

July 16, 2009